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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention detects the printing reference position to the rolled paper pulled out and conveyed from a rolled state by a sensor, and relates to the Label Printer which prints a given item by a printhead according to the detection result.

[0002]

[Description of the Prior Art]Conventionally, in the Label Printer which prints a given item to rolled paper, in order to detect the printing reference position to the rolled paper pulled out and conveyed from a rolled state, the sensor by which the light emitting device and the photo detector countered is formed on the conveying path of rolled paper. This sensor has a rolled paper passage part for letting rolled paper pass between a light emitting device and a photo detector, and this rolled paper passage part is set as a slit size, and that gap size is being fixed.

[0003]

[Problem(s) to be Solved by the Invention]For this reason, when exchanging rolled paper, rolled paper had to be inserted in the rolled paper passage part of a slit size, and the clearing work of rolled paper has taken time and effort. When rolled paper produces jam, jam processing has also taken time and effort.

[0004]This invention then, by opening greatly the crevice between the guide part of the conveyance course provided in the printer body, and the sensor holder to which the sensor was attached at the time of exchange of rolled paper and jam processing, It aims at providing the Label Printer which enabled it to perform the clearing work and jam processing of rolled paper easily.

[0005]

[Means for Solving the Problem]a direction in which the invention according to claim 1 approaches a printer body in a holder part to which a printhead was attached, and a direction to estrange -- rotation -- it attaching enabling free and free optional position immobilization, and, A sensor which was made to counter rolled paper pulled out and conveyed and has been arranged detects a printing reference position to this rolled paper from a rolled state, In a Label Printer which prints a given item to said rolled paper by said printhead based on a detection result of said sensor, A sensor holder which counters a guide part provided in said printer body on both sides of a conveyance course in which said rolled paper is conveyed is provided, Attach said sensor to this sensor holder, and an end of a direction which intersects perpendicularly with a transportation direction of said rolled paper of said sensor holder is attached to said printer body by a fulcrum part, enabling free rotation, Between said sensor holder and said holder

parts was connected by a link member so that the other end side of said sensor holder might rotate focusing on said fulcrum part in said printer body and the direction to estrange, when said holder part rotated in said printer body and the direction to estrange.

[0006]Therefore, if a holder part is rotated upwards, the other end side of a sensor holder connected with this holder part by a link member will rotate upwards by making a fulcrum part into a fulcrum, and a conveying path between a sensor holder and a guide part will open it greatly. For this reason, exchange of rolled paper performed by fitting rolled paper over between a sensor holder and a guide part and jam processing can be performed easily.

[0007]

[Embodiment of the Invention]The 1 embodiment of this invention is described based on a drawing. Drawing 1 shows the entire structure of a Label Printer, and this Label Printer comprises the printer body 1 and the rolled paper holder part 2. The downward position which approached the printer body 1 as the pivot 3 is made the printer body 1 with a fulcrum and it was shown in drawing 1, The locking lever 6 for locking the holder part 4 in which sliding direction rotation is free between the upper positions estranged from the printer body 1 as shown in drawing 2, the platen 5 rotated with the drive motor which is not illustrated, and the holder part 4 in the downward position shown in drawing 1, etc. are attached. The ink ribbon 7, the thermal head 8 which is printheads, etc. are attached to the holder part 4.

[0008]The rolled paper 9 which wound around rolled form that by which many labels were stuck on pasteboard is attached to the rolled paper holder part 2. After this rolled paper 9 is pulled out from a rolled state, it is inserted into the printer body 1, and when rotating the holder part 4 to the downward position shown in drawing 1, it is piled up with the ink ribbon 7 between the platen 5 and the thermal head 8.

[0009]In the printer body 1, the conveying path 10 where the rolled paper 9 is conveyed is formed, and the sensor holder 12 is arranged at the position which counters the guide part 11 in the entrance side of this conveying path 10 from the upper part. This sensor holder 12 is formed in long shape, makes the direction which intersects perpendicularly with the transportation direction of the rolled paper 9 extend, and is arranged. The light sensing portion 13 which are some sensors is attached to the sensor holder 12, and the light sensing portion 13 in the guide part 11 and the light-emitting part 14 which are some sensors at the position which counters are attached to it.

[0010]Flexibility, with the held fulcrum part 15 are formed in the end of the sensor holder 12, and the engaging hole 16 where this fulcrum part 15 is engaged is formed in the printer body 1. And by making the fulcrum part 15 engage with the engaging hole 16, the other end side makes the fulcrum part 15 a fulcrum, and sliding direction rotation of the sensor holder 12 is enabled.

[0011]The holding shaft 17 projected towards the extending direction of this sensor holder 12 in the other end of the sensor holder 12 is formed in one. The retainer board 19 which equipped the printer body 1 with the retention groove 18 which carried out the opening for the upper parts holding this holding shaft 17 is formed in one.

[0012]The upper bed part of the link member 20 is connected with the side plate 4a of the holder part 4 by the pivot 21, enabling free rotation. The long oblong hole 22 is formed in a sliding direction at the lower end part of the link member 20, and the holding shaft 17 of the sensor holder 12 is inserted in this oblong hole 22.

[0013]In such composition, drawing 1 and drawing 3 show the state where made it rotate to a downward position and the holder part 4 was locked, and drawing 2 and drawing 4 show the state where canceled the locked position and the holder part 4 was rotated to the upper position.

[0014]In the state where made it rotate to a downward position and the holder part 4 was locked as shown in drawing 1 and drawing 3, The sensor holder 12 and the guide part 11 counter in parallel, and the light-emitting part 14 and the light sensing portion 13 approach, it counters in a sliding direction, and the rolled paper 9 pulled out from the rolled state is conveyed through between the light-emitting part 14 and the light sensing portions 13. And during this conveyance, the portion of only the pasteboard between the label and label which were stuck on pasteboard is detected by the light-emitting part 14 and the light sensing portion 13, and control of the print position to a label is performed based on that detection result.

[0015]Since the top side edge part of the oblong hole 22 of the link member 20 has contacted during conveyance of this rolled paper 9 in the upper part periphery side of the holding shaft 17 as shown in drawing 5 (a), position immobilization is carried out certainly and the sensor holder 12 can ensure the guide of the rolled paper 9 conveyed. Since it replaced with the rolled paper 9 of the involution shown in drawing 1 and the rolled paper of the outside volume was used, even when facing up pushes up to the sensor holder 12 and power acts, the sensor holder 12 is not raised, and the guide of the rolled paper of an outside volume can be ensured.

[0016]In order that the link member 20 may move to an upper position with the rotation if the holder part 4 is rotated to an upper position as shown in drawing 2 and drawing 4, the holding shaft 17 side of the sensor holder 12 which is making the holding shaft 17 engage with the oblong hole 22 of the link member 20 rotates upwards focusing on the fulcrum part 15. At this time, as shown in drawing 5 (b), the holding shaft 17 separated from the retention groove 18, and the lower side edge part of the oblong hole 22 is in contact with the lower peripheral face of the holding shaft 17.

[0017]As shown in drawing 4, when the holding shaft 17 side of the sensor holder 12 rotates upwards focusing on the fulcrum part 15, the crevice between the portions in which the rolled paper 9 between the sensor holder 12 and the guide part 11 is conveyed opens greatly. For this reason, at the time of exchange of the rolled paper 9, the work which fits the rolled paper 9 over between the guide part 11 and the sensor holder 12 can be easily done now, and clearing work of the rolled paper 9 can be performed easily in a short time. When the rolled paper 9 produces jam between the sensor holder 12 and the guide part 11, the jam processing can be performed easily.

[0018]Attachment to the printer body 1 of the sensor holder 12 is performed by holding in the retention groove 18 while making the fulcrum part 15 which has flexibility engage with the engaging hole 16 and making the holding shaft 17 insert in the oblong hole 22. For this reason, as shown in drawing 6 (b), the sensor holder 12 from the printer body 1 can be easily removed by sagging the fulcrum part 15 and removing from the engaging hole 16. By removing the sensor holder 12 from the printer body 1, cleaning work etc. of removing operation when the label which exfoliated from pasteboard sticks to the sensor holder 12, the light sensing portion 13, or the light-emitting part 14 can be performed easily.

[0019]In this embodiment, although what stuck many labels on pasteboard as an example of the rolled paper 9, and was wound around rolled form was mentioned as the example and explained, a tag paper may be wound around rolled form.

[0020]In this embodiment, although the light sensing portion 13 of the transmission type sensor was


mentioned as the example and explained as a sensor attached to the sensor holder 12, the light-emitting part 14 may be attached to the sensor holder 12. The case where a reflection type sensor is attached to the sensor holder 12 may be sufficient.

[0021]

[Effect of the Invention]When rotating the holder part to which the printhead was attached in a printer body and the direction to estrange according to the Label Printer of the invention according to claim 1, One end can make it rotate in the direction which estranges the other end side of the sensor holder attached to the printer body by the fulcrum part enabling free rotation with a printer body via a link member. Thereby, the conveyance course of the rolled paper between a sensor holder and a guide part can be made to be able to open greatly, and the clearing work and jam processing of rolled paper which are performed by fitting rolled paper over between a sensor holder and a guide part can be performed easily.

[Translation done.]

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